

What is claimed:

1 1. An endoluminal device comprising a plurality of continuous filaments
2 braided together, at least one filament comprising at least one first region having a first
3 cross-sectional area and at least one second region having a second cross-sectional area,
4 wherein the first cross-sectional area is larger than the second cross-sectional area.

1 2. The endoluminal device of claim 1, wherein the at least one filament
2 comprises a step-change between the first region and the second region.

1 3. The endoluminal device of claim 1, wherein all of the plurality of
2 continuous filaments comprise a step-change between each first region and each second
3 region.

1 4. The endoluminal device of claim 1, wherein the at least one filament
2 comprises a tapered filament.

1 5. The endoluminal device of claim 1, wherein all of the plurality of
2 continuous filaments comprise tapered filaments.

1 6. The endoluminal device of claim 1, wherein the endoluminal device
2 comprises an end having atraumatic end windings.

1 7. The endoluminal device of claim 1, wherein the at least one filament
2 comprises a circular cross-section.

1 8. The endoluminal device of claim 1, wherein the at least one filament
2 comprises a non-round cross-section.

1 9. The endoluminal device of claim 1, wherein the endoluminal device
2 tapers from a first end having a first diameter to a second end having a second diameter
3 smaller than the first diameter.

1 10. The endoluminal device of claim 1, wherein the at least one filament
2 further comprises a third region having a cross-sectional area intermediate the first and
3 second cross-sectional areas.

1 11. The endoluminal device of claim 1, wherein a first end of the
2 endoluminal device has a first diameter and a second end of the endoluminal device has a
3 second diameter smaller than the first diameter.

1 12. The endoluminal device of claim 11, wherein the endoluminal device
2 comprises the first region of the filament having the first cross-sectional area at the first
3 end of the endoluminal device and the second region of the filament having the second
4 cross-sectional area at the second end of the endoluminal device.

1 13. The endoluminal device of claim 12, wherein the endoluminal device
2 comprises an intermediate portion having a third diameter intermediate the first and
3 second diameters, and the intermediate portion comprises a third region of the at least one
4 filament having a third cross-sectional area intermediate the first and second cross-
5 sectional areas.

1 14. The endoluminal device of claim 1 wherein the endoluminal device
2 comprises a first portion and a second portion, wherein the second portion is more flexible
3 than the first portion and comprises the second region of the at least one filament having
4 the second cross-sectional area.

1 15. The endoluminal device of claim 1 wherein the filaments comprise
2 wire.

1 16. The endoluminal device of claim 15 wherein the wire comprises one
2 of: nitinol or stainless steel.

1 17. The endoluminal device of claim 1 wherein the filaments comprise
2 polymeric material.

1 18. The endoluminal device of claim 1 wherein the endoluminal device
2 comprises a radially compressed configuration for introduction into a lumen and a radially
3 expanded configuration for deployment within the lumen.

1 19. The endoluminal device of claim 18 wherein the endoluminal device
2 is expandable between the radially compressed configuration and the radially expanded
3 configuration by one of: balloon expansion, self-expansion via spring elasticity, or self-
4 expansion via a thermally or stress-induced return of a pre-conditioned memory material.

1 20. The endoluminal device of claim 1 wherein the endoluminal device
2 comprises one of: a 1:1 single filament braiding ratio, a 2:2 single filament braiding ratio,
3 or a 1:1 paired filament braiding ratio.

1 21. The endoluminal device of claim 1 further comprising a body and a
2 plurality of legs, wherein at least a first leg portion of each leg comprises a discrete
3 plurality of continuous filaments braided together and at least a first body portion of the
4 body comprises at least one of said continuous filaments from each discrete plurality of
5 continuous filaments braided together.

1 22. A method for treating a human being, the method comprising the
2 step of deploying within a lumen of the human being an endoluminal device comprising a
3 plurality of continuous filaments braided together, at least one filament comprising at least
4 one first region having a first cross-sectional area and at least one second region having a

5 second cross-sectional area, wherein the first cross-sectional area is larger than the second
6 cross-sectional area.